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Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/746,489 | TEICH ET AL. | |
| | Examiner | Art Unit | |
| | Nadia Khoshnoodi | 2133 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *11 March 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

### *Response to Amendment*

Applicant's arguments/ amendments with respect to amended claims 1, 6-9, & 20 and previously presented claims 2-5, 10-19, & 21-25 filed on March 11, 2005 have been fully considered and therefore the claims are rejected under new grounds.

### *Claim Objections*

Claims 1, 8, and 20-25 are objected to because of the following informalities:

As per claims 1, 8, and 20:

These claims do not properly separate the preamble from the body of the claim. Appropriate correction is required.

As per claims 21-25:

Claims 21-25 claim a computer programme, such that when running on a computer, implements the method of its parent claim. Since claims 21-25 are directed towards a computer programme, the statutory class of invention as presently claimed is inconsistent with that of a method which is the statutory class of the claims they derive from (1, 7, 8, 13, and 21). Therefore, it is unclear whether the applicants intended for the claim to be rewritten in a form so that it is independent of the method so that the computer program product implementing this method can be claimed properly.

### *Claim Rejections - 35 USC § 101*

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 21-25 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter, as they do not fall under any of the statutory classes of inventions. The language in the claims raise an issue because the claims are directed merely to an abstract idea that is not tied to an article of manufacture which would result in a practical application producing a concrete, useful, and tangible result to form the basis of statutory subject matter under 35 U.S.C. 101.

As per claims 21-24:

These claims recite the limitation "a computer programme arranged such that when it is run on a computer executes..." Therefore, the limitation does not specify that the programme must necessarily be run on a computer and even allows for the programme to be processed in an intangible manner.

As per claim 25:

This claim recites the limitation "...stored on a data carrier medium." Since a data carrier medium is not defined to be an EEPROM or other type of memory, the broadest reasonable interpretation is used and therefore, the data carrier medium could be interpreted as a carrier wave or even a piece of paper carrying data.

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 21-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As per claims 21-22:

Claims 21-22 mention the secure management of EEPROM data files, where an EEPROM has not previously been introduced in either of the claims from which these claims derive. Therefore, this limitation in the claims lacks antecedent basis.

***Claim Rejections - 35 USC § 103***

I. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

II. Claims 1-8 and 20-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schuyler, U.S. Patent No. 5,832,526 and further in view of Klausmeier et al., U.S. Patent No. 6,487,202 and Ofek et al., U.S. Patent No. 5,751,993.

As per claim 1:

Schuyler substantially teaches file recovery techniques for recovering all of each file's data (col. 4, lines 39-42) where the process of recovery is equivalent to that of a data restoration which may very well be during a write operation, pre-allocated storage sub-areas of a random access storage device with an end-of-file tagging code (col. 4, lines 55-65) where the end-of-file

tagging code is a position status byte, and a file to have all of its data recorded in logically sequential order across storage sub-areas (col. 7, lines 56-60) where the data recording is equivalent to a write operation and a logical storage method is to store the entire data set in a like manner.

Not explicitly disclosed by Schuyler is where each of the records additionally containing a second reference indicating the current data-containing record of a subsequent file, wherein the write operation comprises an update stage and an atomic write stage, the update stage comprising multiple update operations performed for a plurality of records employing the second references of at least some records of the plurality of records, and wherein the updates to the plurality of records are accepted in one atomic write stage after completion of the multiple update operations.

However, Klausmeier et al. teach employing multiple update operations on a plurality of records by adding new records to the list, i.e. employing the second reference of at least some of the plurality of records. Therefore, it would have been obvious to a person in the art at the time the invention was made to modify the method disclosed in Schuyler to allow for a write operation to comprise an update stage comprising multiple update operations performed for a plurality of records employing the second references of at least some records of the plurality of records . This modification would have been obvious because a person having ordinary skill in the art, at the time the invention was made, would have been motivated to do so since it is suggested by Klausmeier et al. in col. 9, lines 17-29.

Furthermore, Klausmeier et al. also teach accepting the updates in one atomic write stage after completing the multiple operations. Therefore, it would have been obvious to a person in

the art at the time the invention was made to modify the method disclosed in Schuyler to accept the updates in one atomic write stage upon completion of the multiple operations. This modification would have been obvious because a person having ordinary skill in the art, at the time the invention was made, would have been motivated to do so since it is suggested by Klausmeier et al. in col. 9, lines 27-41.

Also not explicitly disclosed by Schuyler is where each of the records additionally containing a first reference indicating the current data-containing record of a previous file, the one atomic write stage employing the first reference of the at least some records of the plurality of records.

However, Ofek et al. teach using a doubly-linked list. Therefore, it would have been obvious to a person in the art at the time the invention was made to modify the method disclosed in Schuyler and Klausmeier et al. for the list to be a doubly-linked list in order for each of the records to also contain a first reference indicating the current data-containing records of a previous file. Furthermore, it would then also be obvious to have the one atomic write stage to employ the first reference of the at least some records of the plurality of records, just as Klausmeier et al. disclose that the second references are employed. This modification would have been obvious because a person having ordinary skill in the art, at the time the invention was made, would have been motivated to do so since it is suggested by Ofek et al. in col. 2, lines 9-19.

As per claim 2:

Schuyler, Klausmeier et al., and Ofek et al. substantially teach the method as applied to claim 1 above. Further, Schuyler teaches a sequence of allocation blocks or fragments that store the file's data (col. 4, lines 4-35) and recording user comments about the file (col. 4, lines 34-35).

As per claim 3:

Schuyler, Klausmeier et al., and Ofek et al. substantially teach the method as applied to claim 2 above. Further, Schuyler teaches that random access devices store executable code, which may be lost when power is lost and will require updating by a non-volatile random access memory device such as flash EEPROM (col. 7, lines 5-15), Thus, the code or data is stored in an EEPROM before 'a function (i.e. write) is performed in case a power failure occurs, then if a power failure does occur the data files are updated by the EEPROM storage.

As per claim 4:

Schuyler, Klausmeier et al., and Ofek et al. substantially teach the method as applied to claim 1 above. Further, Schuyler teaches that before power loss an indicator designates the sequence of allocation blocks or fragments that store the file's data (col. 4, lines 1-7).

As per claim 5:

Schuyler, Klausmeier et al., and Ofek et al. substantially teach the method as applied to claim 3 above. Further, Schuyler teaches that before power loss an indicator designates the sequence of allocation blocks or fragments that store the file's data (col. 4, lines 1-7).

As per claim 6:

Schuyler, Klausmeier et al., and Ofek et al. substantially teach the method as applied to claim 5 above. Further, Schuyler teaches the algorithm may additionally or alternatively record

the next sub-area as being the probable first sub-area of a next file or file fragment or the beginning of free space or a free space fragment (col. 16, lines 67 and col. 17, lines 1-3).

As per claim 7:

Schuyler, Klausmeier et al., and Ofek et al. substantially teach the method as applied to claim 6 above. Further, Schuyler teaches a tag format version number where validated information is gathered (col. 17, lines 7-20).

As per claim 8:

Schuyler substantially teaches EEPROM may be used in carrying out nonvolatile data storing functions (col. 7, lines 40-55), data is recorded with down-pointing arrow headed lines to indicate that directory structure points the way to portions of the internal files (col. 7, lines 50-55), data recorded in logically successive storage sub-areas where the second storage area is immediately adjacent to the first storage area (col. 7, lines 61-67), and unique header blocks (or unique templates) and thereby identifies the locations where each application begins (col. 4, lines 56-65).

Not explicitly disclosed by Schuyler is where each of the records additionally containing a second reference indicating the current data-containing record of a subsequent file, wherein the write operation comprises an update stage and an atomic write stage, the update stage comprising multiple update operations performed for a plurality of records employing the second references of at least some records of the plurality of records, and wherein the updates to the plurality of records are accepted in one atomic write stage after completion of the multiple update operations.

However, Klausmeier et al. teach employing multiple update operations on a plurality of records by adding new records to the list, i.e. employing the second reference of at least some of the plurality of records. Therefore, it would have been obvious to a person in the art at the time the invention was made to modify the method disclosed in Schuyler to allow for a write operation to comprise an update stage comprising multiple update operations performed for a plurality of records employing the second references of at least some records of the plurality of records . This modification would have been obvious because a person having ordinary skill in the art, at the time the invention was made, would have been motivated to do so since it is suggested by Klausmeier et al. in col. 9, lines 17-29.

Furthermore, Klausmeier et al. also teach accepting the updates in one atomic write stage after completing the multiple operations. Therefore, it would have been obvious to a person in the art at the time the invention was made to modify the method disclosed in Schuyler to accept the updates in one atomic write stage upon completion of the multiple operations. This modification would have been obvious because a person having ordinary skill in the art, at the time the invention was made, would have been motivated to do so since it is suggested by Klausmeier et al. in col. 9, lines 27-41.

Also not explicitly disclosed by Schuyler is where each of the records additionally containing a first reference indicating the current data-containing record of a previous file, the one atomic write stage employing the first reference of the at least some records of the plurality of records.

However, Ofek et al. teach using a doubly-linked list. Therefore, it would have been obvious to a person in the art at the time the invention was made to modify the method disclosed

in Schuyler and Klausmeier et al. for the list to be a doubly-linked list in order for each of the records to also contain a first reference indicating the current data-containing records of a previous file. Furthermore, it would then also be obvious to have the one atomic write stage to employ the first reference of the at least some records of the plurality of records, just as Klausmeier et al. disclose that the second references are employed. This modification would have been obvious because a person having ordinary skill in the art, at the time the invention was made, would have been motivated to do so since it is suggested by Ofek et al. in col. 2, lines 9-19.

As per claim 20:

Schuyler substantially teaches EEPROM may be used in carrying out nonvolatile data storing functions (col. 7, lines 40-55), an EEPROM may carry out the nonvolatile data storing functions where data is recorded on the disk subsystem to define a directory structure and a plurality of files (col. 7, lines 47-49), and a file is shown to have all of its data recorded in across successive storage sub-areas of a storage area (col. 7, lines 40-49).

Not explicitly disclosed by Schuyler is where each of the records additionally containing a second reference indicating the current data-containing record of a subsequent file, wherein the write operation comprises an update stage and an atomic write stage, the update stage comprising multiple update operations performed for a plurality of records employing the second references of at least some records of the plurality of records, and wherein the updates to the plurality of records are accepted in one atomic write stage after completion of the multiple update operations.

However, Klausmeier et al. teach employing multiple update operations on a plurality of records by adding new records to the list, i.e. employing the second reference of at least some of the plurality of records. Therefore, it would have been obvious to a person in the art at the time the invention was made to modify the method disclosed in Schuyler to allow for a write operation to comprise an update stage comprising multiple update operations performed for a plurality of records employing the second references of at least some records of the plurality of records . This modification would have been obvious because a person having ordinary skill in the art, at the time the invention was made, would have been motivated to do so since it is suggested by Klausmeier et al. in col. 9, lines 17-29.

Furthermore, Klausmeier et al. also teach accepting the updates in one atomic write stage after completing the multiple operations. Therefore, it would have been obvious to a person in the art at the time the invention was made to modify the method disclosed in Schuyler to accept the updates in one atomic write stage upon completion of the multiple operations. This modification would have been obvious because a person having ordinary skill in the art, at the time the invention was made, would have been motivated to do so since it is suggested by Klausmeier et al. in col. 9, lines 27-41.

Also not explicitly disclosed by Schuyler is where each of the records additionally containing a first reference indicating the current data-containing record of a previous file, the one atomic write stage employing the first reference of the at least some records of the plurality of records.

However, Ofek et al. teach using a doubly-linked list. Therefore, it would have been obvious to a person in the art at the time the invention was made to modify the method disclosed

in Schuyler and Klausmeier et al. for the list to be a doubly-linked list in order for each of the records to also contain a first reference indicating the current data-containing records of a previous file. Furthermore, it would then also be obvious to have the one atomic write stage to employ the first reference of the at least some records of the plurality of records, just as Klausmeier et al. disclose that the second references are employed. This modification would have been obvious because a person having ordinary skill in the art, at the time the invention was made, would have been motivated to do so since it is suggested by Ofek et al. in col. 2, lines 9-19.

As per claim 21:

Schuyler, Klausmeier et al., and Ofek et al. substantially teach the method as applied to claim 1 above. Further, Schuyler teaches Schuyler teaches that random access devices store executable code, which may be lost when power is lost and will require updating by a non-volatile random access memory device such as flash EEPROM (col. 7, lines 515).

As per claim 22:

Schuyler, Klausmeier et al., and Ofek et al. substantially teach the method as applied to claim 7 above. Further, Schuyler teaches that random access devices store executable code, which may be lost when power is lost and will require updating by a non-volatile random access memory device such as flash EEPROM (col. 7, lines 5-15).

As per claim 23:

Schuyler, Klausmeier et al., and Ofek et al. substantially teach the method as applied to claim 8 above. Further, Schuyler teaches that random access devices store executable code,

which may be lost when power is lost and will require updating by a non-volatile random access memory device such as flash EEPROM (col. 7, lines 5-15).

III. Claims 9-11 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schuyler U.S. Patent No. 5,832,526, Klausmeier et al. U.S. Patent No. 6,487,202, and Ofek et al. U.S. Patent No. 5,751,993 and further in view of Steiner et al., U.S. Patent No. 6,003,134.

As per claim 9:

Schuyler, Klausmeier et al., and Ofek et al. substantially teach the method as applied to claim 8 above. Schuyler fails to teach two or more data files are affected by the write operation, and wherein new or modified data is written into the files in a cyclic manner, wherein each file comprises an indication of the number of records contained in the file and a plurality of records, and wherein each record comprises an indication of the status of the data in the record, a synchronization number synchronizing with records of other files, and the data. Steiner et al. teach data is recorded on the disk subsystem to define a directory structure and a plurality of files, Down-pointing arrow-headed lines are drawn to indicate that directory structure points the way to Vie start and subsequent portions of the internal files (col. 7, lines 49-54).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the method by Schuyler by including cyclic writing with the application of an indicator for each file. This modification would have been obvious because a person having ordinary skill in the art would have been motivated to do so, as suggested by Steiner et al. in order to be able to locate a file at a later time.

As per claim 10:

Schuyler, Klausmeier et al., Ofek et al., and Steiner et al. substantially teach the method as applied to claim 9 above. Further, Schuyler teaches identifying the physical start of each stored file, associating each file with a corresponding file name (col. 4, lines 1-4), specifying a graphical icon where the graphical icon represents the file (col. 4, lines 21-26) and specifying an application program to be associated with the file, such as the application program that created or last modified the file (col. 4, lines 29-31).

Schuyler fails to teach copying the data stored in the current active record into the working record and adding to or modifying the data according to the write operation in the working record, changing the status of the working record of the file to active; repeating the steps for each further file and changing the record status of the original current active record of the first file to inactive as an indication that the write operation is complete. Steiner et al. teach when the journal or log file approaches its maximum size, any new data placed in the file will overwrite the oldest data in the file---if sufficient space is allocated, many systems are capable of storing sufficient data to achieve the purpose of the log file (col. 1, lines 50-60), the storage sessions where pieces of the file of interest are located have been identified- the next step is to retrieve the various portions of the file from the various archive storage sessions and coalesce the most recent versions of all pieces of the file (col. 3, lines 19-41), and indicate that the previous versions of the file have been superceded by invalidating the previous written data which indicates to the system that the version has been superceded (col. 3, lines 51-61).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the method by Schuyler by including copying the data stored and changing the status of files. This modification would have been obvious because a

person having ordinary skill in the art would have been motivated to do so, as suggested by Steiner et al., in order to adapt the files to changing data states.

As per claim 11:

Schuyler, Klausmeier et al., Ofek et al., and Steiner et al. substantially teach the method as applied to claim 10 above. Schuyler fails to teach the step of determining the current active record and the working record of the files comprises searching for the first record in the file whose status byte indicates active status and setting this record as said current active record, and setting the subsequent record as the working record. Steiner et al. teach the storage sessions where pieces of the file of interest are located have been identified- the next step is to retrieve the various portions of the file from the various archive storage sessions and coalesce the most recent versions of all pieces of the file (col. 3, lines 19-41), and indicate that the previous versions of the file have been superceded by invalidating the previous written data which indicates to the system that the version has been superceded (col. 3, lines 51-61).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the method by Schuyler by determining the current active and working record of the files. This modification would have been obvious because a person having ordinary skill in they art would have been motivated to do so, as suggested by Steiner et al., in order to adapt the files to changing data states.

As per claim 25:

Schuyler, Klausmeier et al., and Ofek et al. substantially teach the method as applied to claim 21 above. Schuyler fails to teach a computer programme stored on a data carrier medium.

Steiner teaches a computer readable media having executable instructions or data fields stored (col. 5, lines 18-29).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the method by Schuyler by including a computer programme. This modification would have been obvious because a person having ordinary skill in the art would have been motivated to do so, as suggested by Steiner et al., in order to have access to an operating tool.

IV. Claims 12-19 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schuyler U.S. Patent No. 5,832,526, Klausmeier et al. U.S. Patent No. 6,487,202, Ofek et al. U.S. Patent No. 5,751,993, and Steiner U.S. Patent No. 6,003,134, and further in view of Kuo et al. U.S. Patent No. 6,003,134.

As per claim 12:

Schuyler, Klausmeier et al., Ofek et al., and Steiner et al. substantially teach the method as applied to claim 11 above. Further, Schuyler teaches additional information is stored in a structure, which is used to tie together the fragmented portions of each file (col. 3, lines 24-36), a unique tagging code is recorded in each file (col. 9, lines 65-67) possibly with an end-of file tagging code (TAG) (col. 10, lines 1-4) with an active status indicator being an option, the recorded unique tagging code or codes of slack areas and may be used during file recovery operations to create end of file pointers (col. 10, lines 12-15), application programs place unique header blocks at the beginning of their generated data files (col. 4, lines 56-65), routinely making secondary modifications to the mirror directory structure each time primary modifications are made to the primary directory structure (col. 10, lines 47-52), and a unique tagging code is

recorded in each file (col. 9, lines 65-67) possibly with an end-of-file tagging code (TAG) (col. 10, lines 1-4) with an active status indicator being an option.

Schuyler fails to teach identifying a current active record and a working record of a second file and copying the data from the current active record to the working record, setting synchronization indicator pointers to indicate the link between this file and the first file and changing the synchronization indicator pointer of the first file to indicate its link with the second file, repeating these steps for the second file for any subsequent files, and identifying the current active record of the file and a working record and copying the data to be added to or modified from the current active record to the working record. Steiner teaches a file has various modified portions are written to archive storage session where archive storage session would then include file updates (col. 7, lines 55-60), the storage sessions where pieces of the file of interest are located have been identified- the next step is to retrieve the various portions of the file from the various archive storage sessions and coalesce the most recent versions of all pieces of the file (col. 3, lines 19-41), and indicate that the previous versions of the file have been superceded by invalidating the previous written data which indicates to the system that the version has been superceded (col. 3, lines 51-61). Kuo et al. teach storing signature-type information that may be stored with a file and identifying which copies of a file are current (col. 12, lines 31-46).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the method by Schuyler by obtaining access to records and copying them and modifying the active record. This modification would have been obvious because a person having ordinary skill in the art would have been motivated to do so, as suggested by Steiner et al., in order to convert files to a working status and identify the files.

As per claim 13:

Schuyler, Klausmeier et al., Ofek et al., Steiner et al., and Kuo et al. substantially teach the method as applied to claim 12 above. Schuyler fails to teach an interruption of the write operation at any stage, either all current active records of all files affected by the operation are set as fully active records, and the data contained in the files prior to the start of the write operation is the current active data, or all working records of all files are set to a fully active status, in which case all files contain the modified data due to the write operation as the active data. Steiner teaches at a later time a file had various modified portions, the archive storage session is initiated and modified portions of file are written to archive storage session which include file updates and are associated with an index (col. 7, lines 55-67) that may designate active status.

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the method by Schuyler by recovering from a write interruption. This modification would have been obvious because a person having ordinary skill in the art would have been motivated to do so, as suggested by Steiner, in order to assure that data is not lost upon a malfunction of the writing apparatus.

As per claim 14:

Schuyler, Klausmeier et al., Ofek et al., Steiner et al., and Kuo et al. substantially teach the method as applied to claim 13 above. Further, Schuyler teaches a variety of events may occur during the operational life of a disk that work to undesirability damage different parts of the disk and/or destroy data that is stored in those parts (col. 3, lines 62-67) and the files are associated with a corresponding file name (col. 4, lines 3-4).

As per claim 15:

Schuyler, Klausmeier et al., Ofek et al., Steiner et al., and Kuo et al. substantially teach the method as applied to claim 13 above. Further, Schuyler teaches a variety of events may occur during the operational life of a disk that work to undesirability damage different parts of the disk and/or destroy data that is stored in those parts (col. 3, lines 62-67) and the files are associated with a corresponding filename (col. 4, lines 3-4).

As per claim 16:

Schuyler, Klausmeier et al., Ofek et al., Steiner, and Kuo et al. substantially teach the method as applied to claim 13 above. Further, Schuyler teaches a variety of events may occur during the operational life of a disk that work to undesirability damage different parts of the disk and/or destroy data that is stored in those parts (col. 3, lines 62-67) and the files are associated with a corresponding file name (col. 4, lines 3-4).

As per claim 17:

Schuyler, Klausmeier et al., Ofek et al., Steiner et al., and Kuo et al. substantially teach the method as applied to claim 13 above. Further, Schuyler teaches a variety of events may occur during the operational life of a disk that work to undesirability damage different parts of the disk and/or destroy data that is stored in those parts (col. 3, lines 62-67) and the files are associated with a corresponding filename (col. 4, lines 3-4).

As per claim 18:

Schuyler, Klausmeier et al., Ofek et al., Steiner et al., and Kuo et al. substantially teach the method as applied to claim 13 above. Further, Schuyler teaches a variety of events may occur during the operational life of a disk that work to undesirability damage different parts of

the disk and/or destroy data that is stored in those parts (col. 3, lines 62-67) and the files are associated with a corresponding file name (col. 4, lines 3-4).

As per claim 19:

Schuyler, Klausmeier et al., Ofek et al., Steiner et al., and Kuo et al. substantially teach the method as applied to claim 12 above. Further, Schuyler teaches a section consists of a succession of storage sub-areas (col. 9, lines 6-8) where pointers point to the allocated block of a fragment (col. 9, lines 46-58) and a file is defined by a file size header (col. 9, lines 40-45).

As per claim 24:

Schuyler, Klausmeier et al., Ofek et al., Steiner et al., and Kuo et al. substantially teach the method as applied to claim 12 above. Further, Schuyler teaches that random access devices store executable code, which may be lost when power is lost and will require updating by a non-volatile random access memory device such as flash EEPROM (col. 7, lines 5-15).

**References Cited, Not Used*

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

1. U.S. Patent No. 5,974,503
1. U.S. Patent No. 6,230,200
1. U.S. Patent No. 5,592,432
1. U.S. Patent No. 6,122,645

The above references have been cited because they are relevant due to the manner in which the invention has been claimed.

*Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nadia Khoshnoodi whose telephone number is (571) 272-3825. The examiner can normally be reached on M-F: 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert Decady can be reached on (571) 272-3819. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Examiner
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